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DOI: [10.5281/zenodo.14604027](https://doi.org/10.5281/zenodo.14604027)**Status and international regime for the Antarctic in the field of protection from climate change**

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Abstract: The present work aims to highlight some technical and critical aspects, that in recent years have been going on with a demanding manner for the greater protection, at an international level, of the Antarctic. Jurisdiction problems, disputes between states show that an uncertain legal status in the Antarctic area creates many problems and at the same time also highlights the crucial points that have been going on for years through a

constant commitment to international rules that have as their final objective to protect an area that with a rigorous manner through the Antarctic Treaty tries to reduce problems related to the climate and marine environment thus helping to prevent through precautionary monitoring an area that suffers from climate change.

Keywords: protection of the Antarctic; climate change; Antarctic Treaty; global treaties; state jurisdiction; UNFCCC; treaty of Paris; REPAT; ATCM; SCAR.

Introduction

The topic of climate change does not only have to do with the continuous increase in the temperature of the planet during the summer and the consequences it has for human health but also for the polar areas, namely the Antarctic. The continuous melting of the ice and global warming has as a first consequence to

damage the areas that are covered by ice, as well as the survival of plant and animal species that live in Antarctic. The continuous harmful consequences in this area also cause the devastation of other areas of the planet such as the rise in sea level due to the melting of the ice and the disappearance of atolls in the islands of micro-states and finally the rise in the waters of the Pacific Ocean, as a phenomenon in continuous evolution (Wannier, Gerrard, 2013).

Climate policies in the Antarctic area also cause the conservation of other regions of the planet especially because of the increase of carbon dioxide (CO₂) in the atmosphere as well as in the oceans and human activities of the planet and not only the Antarctic. The presence of commercial ships in the Antarctic waters and other seas of the planet as well as the exploitation of natural resources that are living are subject to strict discipline by international law.

Adopting climate norms and policies means creating a precise climate regime for the Antarctic that calls for a legal status for

this continent. International instruments fight against climate change through the United Nations Framework Convention on Climate Change (UNFCCC)¹ together with the annexes, such as the Kyoto Protocol² and the Paris Agreement³, that in a more general and abstract way try to be applied in all areas of the planet thus establishing territorial sovereignty for states and guaranteeing established obligations. The basis of international law recognizes sovereign rights for the Antarctic continent.

The Antarctic is administered according to an international regime that is established by the Antarctic treaty, namely the so-called Antarctic Treaty System (ATS)⁴. A treaty that seeks to

¹United Nations Framework Convention on Climate Change, New York, 9 May 1992, 1771 United Nations Treaty Series (UNTS), 107.

²Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 11 December 1997, 2303 UNTS 162.

³Paris Agreement, Paris, 20 December 2015, 3156 UNTS 79.

⁴Antarctic Treaty System, which in Art. 1 of the protocol affirms that: “(...) the Antarctic Treaty, the measures in effect under that Treaty, its associated separate international instruments in force and the measures in effect under those instruments (...)”. Protocol on Environmental Protection to the

resolve disputes between states that claim sovereign rights over areas of the Antarctic continent, i.e. Claimant states⁵ and states that actually deny the relative legitimacy of claims, i.e. non-Claimant states (Scott, 2011)⁶. Article IV of the Treaty departs from the traditional approach of geographical areas being classified as subjects of state jurisdiction⁷. States that are parties

Antarctic Treaty, Madrid, 4 October 1991, 2941 UNTS 3. Antarctic Treaty, Washington 1st December 1959, 402 UNTS 71.

⁵Rights relating to sovereignty in the Antarctic zone are: Chile, Australia, Argentina, New Zealand, Norway and United Kingdom.

⁶The group of non-claimant states are not parties to the Antarctic Treaty and have not recognized the claims thereof for existing territories. The distinction between states and non-claimant states was based on the legal status of territorial claims in the Antarctic area and the related tensions that affected the states' claims that were overlapping. Thus, the Antarctic Treaty is the culmination of an intervention of two superpowers, namely the United States and the Russian Federation that sought to establish a multilateral regime to satisfy both the need for pacifying the Antarctic region and a desire for maintaining access to the area.

⁷See Art. IV(1) of the ATS, which is affirmed that: “(...) contained in the

to the treaty have the same rights, duties and claims as sovereign rights over areas of the Antarctic continent (Triggs, 2011). Article IV of the Antarctic Treaty allows Claimant states to claim their own rights as states as well as for their own citizens.

International and national regulations seek to reduce damage caused by climate change in Antarctic since the states bound by these types of regulations cannot, according to the ATS treaty, implement the application of a jurisdictional criterion of territorial sovereignty, which according to international law is applied to all areas of the planet.

present Treaty shall be interpreted as: (a) a renunciation by any Contracting Party of previously asserted rights of or claims to territorial sovereignty in Antarctica; (b) a renunciation or diminution by any Contracting Party of any basis of claim to territorial sovereignty in Antarctica which it may have whether as a result of its activities or those of its nationals in Antarctica, or otherwise; (c) prejudicing the position of any Contracting Party as regards its recognition or non-recognition of any other state's right of or claim or basis of claim to territorial sovereignty in Antarctica (...)"

Antarctic policies on the climate and environmental protection sector seek to ascertain for subjects such as states and international bodies, coercive powers based on international law. Such climate policies are appropriate to fulfill particular environmental needs and especially the regime which governs Antarctic.

What is the governance for the Antarctic?

When talking about governance in the Antarctic we refer to the relative jurisdiction, from the point of view of international law, since the Antarctic has a legal status that is different from other land and marine areas of the planet. States enjoy territorial sovereignty and are responsible for the policy relating to the areas for climate change. The seas and the jurisdiction of the states extends to the outer limits of the Economic Exclusive Zone (EEZ).

The territories are part of an exclusive jurisdiction of the state,

for marine areas, such as the territorial sea, the continental shelf and the EEZ. Also, the rights of coastal states are variable and taken into account.

It is the only area of the planet that is not subject to a state jurisdiction for the international sea. This means that is not part of international norms of a contractual, customary nature. The Antarctic as an exception of states that do not claim rights of sovereignty over areas of the continent has taken into consideration the state jurisdiction of the entire international community. Thus, Claimant states are prevented from asserting state jurisdiction over third country nationals on the basis of claimed territorial sovereignty. This is how the jurisdictional criteria, that are used to implement effective climate policy in the Antarctic, are understood.

The Antarctic continent is governed under the ATS and allows claims of sovereignty to states that are part of the Antarctic territory, assuming that the exercise of sovereignty respects the states that are in their claimed territories. Article VI of the Treaty

of Antarctica takes into account the application of the treaty, namely the area south of sixty degrees of latitude⁸. An area that takes into account the Antarctic continent, the ice shelves and the waters surrounding the relevant continent. Article VI of the Antarctic Treaty takes into account the rights enjoyed by states in the international sea that is in the area of application of the treaty⁹. The provision also takes into account international waters, as well as waters that are not international (Bernhardt, 1975).

According to Articles IV and VI, the Antarctic seas are not unanimously classified as international waters according to non-claimant states, but as parts of the territorial sea, the continental shelf and the EEZ of the Antarctic as claimed by the claimant states (Rothwell, 1995).

⁸See Art. VI of the ATS: “(...) provisions of the present Treaty shall apply to the area south of 60° South Latitude, including all ice shelves (...)”.

⁹See Art. VI of the ATS: “(...) nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any state under international law with regard to the high seas within that area (...)”.

The discipline of the matters that are part of the Antarctic seas has as its objective the protection of the marine environment, the conservation of marine biological resources as treaty instruments part of the ATS, namely the Protocol on Environmental Protection to the Antarctic Treaty (PEPAT)¹⁰ and the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR)¹¹. These are instruments that are part of an approach that finds its spirit and basis in Art. IV of the Antarctic Treaty, which in reality has consolidated rights on territorial sovereignty

¹⁰We must point out that the ratification of the REPAT is mandatory for the states and for the ATS thus opening the way to become consultative parties. That is, for the states parties who will thus have the right to vote. The states parties to the treaty that are not parties to the REPAT do not enjoy the same power. These countries are: Cuba, Denmark, Costa Rica, Estonia, Guatemala, Iceland, Korea, Mongolia, Papua New Guinea, San Marino, Slovakia, Kazakhstan and Slovenia.

¹¹See the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), Canberra, 20 May 1980, 1329 UNTS 47.

that are claimed by the Claimant states on the Antarctic¹².

Annex IV of the REPAT establishes the obligations that are relevant for the prevention of marine pollution. They apply in the same way to the parties to the Antarctic Treaty and also operate in polar waters except for waters that can be considered by the Claimant states as territorial sea and/or of the EEZ, which corresponds to the Antarctic territories, as an affirmation of sovereign rights. The CCAMLR provides obligations regarding the conservation of Antarctic marine resources living in an area of application of the Antarctic Treaty and towards states parties to the convention, thus, including parties to the treaty¹³.

Within this legal framework, states parties to the Antarctic Treaty exercise jurisdiction over an area towards subjects, who have to do with the criterion of citizenship and their own citizens in the area (Jabour, 2017). This is a jurisdictional principle according to the provisions of the ATS. The legal link between an individual and the citizenship state is like a bond that has the objective of

¹²See Art. 1(b) of PEPAT and Article IV of CCAMLR.

¹³See Art. IV(1) of CCAMLR.

uniting the state with the ships flying its own flag. This is a jurisdictional criterion that welcomes the provisions of the ATS (Strating, 2022).

Article 2 of the Annex IV of the REPAT for states parties to the protocol requires the application of the provisions concerning ships flying their own flag.

Article 9 of Annex IV highlights the obligation for the parties to the REPAT to ensure for the ships flying their flag as well as the tank for the collection of waste fluid materials¹⁴. In the ATS, specific provisions are adopted for the fight against climate change, such as a jurisdictional criterion for citizenship, and the flag state that the dominant principle recognizes the power of a state over subjects carrying out activities in the area of application of an Antarctic treaty. Within the ATS, the jurisdictional criterion is based on citizenship, therefore, its application is not able to resolve important issues. For some individuals not citizens of the Antarctic, who assume scientific

¹⁴Information Paper “Ice incident with the Russian vessel “Akademik Shokalsky” in the season 2013-2014” IP65/XXXVII ATCM.

expeditions in it, are based on Art. VII of the Treaty of Antarctic. Such article imposes an obligation for the parties to inform the states, that concern their expeditions to scientific bases in Antarctic, without a specification for the subjects of participation¹⁵.

The specific article highlights the jurisdiction of the states as a sole party towards the subjects, that according to the treaty, can inspect the scientific bases of Antarctic. The observers are not subject to the jurisdiction of the state of citizenship¹⁶. The relative criterion of jurisdiction of citizenship is part of Annex VI of the REPAT, which is related to specific actions that are adopted for the management, control, reduction of the immediate effects of an accident (Broder, Tucker, 2012), of the environmental emergencies¹⁷ providing for alternative jurisdictional solutions.

¹⁵See Art. VII(5) (a) and (b) of the ATS.

¹⁶Article VIII(1) of the ATS: “(...) facilitates the exercise of their functions (...)”.

¹⁷See Annex VI of the protocol for the protection of the environment in Antarctic: Liability arising from Environmental Emergencies, Stockholm 17

Article 2(d) is embraced with the formula of the operator of a party, that is the private entity that organizes in its territory, of the state party to the Antarctic Treaty, the activity that takes place in the Antarctic for the performance, that is authorized by the state. The Annex VI and the operator of a party adopts the relative measures, foresees, responds to emergencies relating to the environment, that causes the area of application of the treaty¹⁸.

The jurisdictional criterion of citizenship as well as the criterion of the operator of a party privileges the relative link between private entities, the states that supervise the activities of the entities that carry out activities in the Antarctic area. According to the Annex VI that has not entered into force and for the principles that are established, as well as the definition of the operator of a party, seek to support and allow the states of the

June 2005.

18Annex VI highlights for operators to adopt measures according to art. 3 that do not prevent the reduction of the risk of environmental emergencies and according to art. 4 to establish plans for the emergency and to respond to incidents that cause harmful effects for the environment.

Antarctic Treaty to exercise their jurisdiction, which respect the obligations that are provided for by the ATS and towards a number of Antarctic operators.

The jurisdictional criterion, for authorized states, imposes for the obligations of the ATS and towards their own citizens and states party to the treaty and citizens of third countries, who organize in their territory activities that they carry out in the Antarctic area.

The jurisdictional criterion connects a state to a private subject based on specific elements such as the fact that the subject carries out in the territory of the state, as an operator of a party that effectively carries out the application of rules, which impose obligations, that respect a legal criterion, such as that of citizenship (Orakhelashvili, 2015; Shaw, 2021; Klabbers, 2023).

The parties to the ATS refer to the jurisdictional criterion that extends the power, which supervises, controls states over Antarctic operators, as a principle that recognizes the jurisdiction of a port state (Orrego Vicuña, 2012; Molenaar, 2021)¹⁹. Port

19ASOC, Port State Control: An Update on International Law Approaches to Regulate Vessels Engaged in Antarctic Non-Governmental Activities,

states that are part of the Antarctic area and territorial authorities that are recognized under international law, exercise the relevant jurisdiction over operators that are in their ports. They are directed to Antarctic and concern the safety for ships and the training of their crews. This jurisdictional criterion according to Art. 9, par. 2 of the Annex IV of the REPAT imposes on states and ports a base that enters the Antarctic area, providing adequate facilities for the reception of materials and the unloading of ships. This is an obligation that infers a power for the control of port states, which are party to an Antarctic treaty for ships directed to Antarctic. The jurisdictional criteria of a Party's operator and port state are useful, allowing states parties to the Antarctic Treaty to enforce the relevant provisions of international instruments other than the ATS and with respect to their operators carrying out activities in the Antarctic area.

External instruments of the ATS that are part, or rather are covered by the UNFCCC, the Kyoto Protocol and the Paris

IP44/XXVI ATCM.

Agreement, have as their final objectives to monitor, control the activities that intensify climate change. The contextual application for the states parties to the Antarctic Treaty and the obligations that are established by the ATS, as international instruments on climate change, allow to eliminate, reduce the main limits, which affect the rules of the ATS, that apply the activities carried out in the Antarctic area. The international rules for the states parties to the Antarctic Treaty promote and adopt rules, measures in favor of the conservation of Antarctic ecosystems that apply human activities that are not part of the Antarctic and that thus have a harmful nature for the conservation of the area.

The activities result in the increase of the CO₂ in the atmosphere as well as in the Antarctic oceans, which cause the alteration of climatic conditions in the area. Human activities in the Antarctic have not contributed significantly to climate change in the polar area. As an exception, we note the activity of navigation in the Antarctic waters and the control by the states party to the treaty.

Thus, the form that increases and strengthens the exercise of jurisdiction for the states of navigation in the Antarctic consists of the powers of control and of the states that the territory calls at the ports, that ships depart directly to the Antarctic area. The human presence in the Antarctic based on tourist and scientific activity, has shown that the destruction of the Antarctic environment is a cause of climate change. Thus, the contingent situation places on the parties to the Antarctic treaty the obligation to adopt measures inspired by international standards, that are established in the legal systems, thus promoting the conservation of the environment and the reduction of effects for climate change.

International standards are not applied in Antarctic through traditional international instruments. The exception of Resolution 7 (2010) is a measure adopted by the ATCM, highlighting the jurisdiction of the port state adopted within the ATS, thus recognizing specific powers towards the Antarctic treaty states

and in the territory that ports of departure for the Antarctic are located.

Overall, climate policies have as their objective the protection of an Antarctic ecosystem that highlights jurisdiction criteria that recognize within the scope of the ATS the exclusion of the exercise of the form of territorial sovereignty of states.

Adoption of a climate regime for the Antarctic area

The continuous climate changes, the norms of the UNFCCC as well as the Paris agreement, are global treaties that are applied to the terrestrial and marine areas of the planet including the Antarctic area. Such instruments establish principles, general objectives requiring their implementation at state and international level.

The ATS is an international legal system that has as its objective the general governance of the Antarctic. The ATS is like a special regime that consolidates precise obligations and implements principles that are established for global agreements and those of

climate change. As a *lex specialis* (Rousseau, Dupuy, 1987; Pauwelyn, 2003; Lindross, 2005; Aledo, 2021; Alland, 2021) the norms in question adopted by the ATS prevail and respect the general provisions, that are established by the global treaties. The principle of the *lex specialis* aims to establish the specific rules that prevail over the general ones and the specific provisions. It is a general principle of international law that is applied to the interpretation of treaties. It is also a principle that constitutes exceptions to the general rule that is applied to the succession of treaties, such as the principle of a *lex posterior* based on a subsequent treaty, which prevails over the one concluded before, i.e. previously. The principle of the *lex specialis* also finds its basis in Art. 31, par. 4 of the Vienna Convention on the law of treaties of 1969.

The Antarctic Treaty is linked to climate change and aims to allow the coexistence of states in the Antarctic area. General obligations are established that concern the management of the Antarctic continent. The regime of the Antarctic environment

represented since 1991 in the relevant Treaty, has regulated, according to the elements of the time, the Antarctic environmental protection and the ecosystems that are dependent in a rigorous and precise manner.

Article IX of the Antarctic Treaty has as its objective the adoption of measures for the use of the Antarctic exclusively for peaceful purposes and scientific research. This is an international scientific cooperation, which inspects Art. VII of the Treaty and the exercise of jurisdiction in the Antarctic for the conservation of natural resources. The ecosystem has a precautionary nature. In fact, the REPAT has the objective of preserving the Antarctic environment and the complex of its individual components (Mcintyre, 2019)²⁰. The precautionary approach allows the

²⁰Art. 2 of PEPAT affirms that: “(...) a natural reserve devoted to peace and science (...)”. Also the World Charter for Nature of the UN affirms that: “(...) “(...) organisms (...) shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist (...)”. World Charter for Nature, UN Doc. A/RES/37/7, 28 October 1982, para 4.

adoption of preventive measures for environmental damage in the absence of effective certainty for the harmful potential of the activity (Trouwborst, 2007)²¹, which reflects specific obligations for the REPAT, such as the one that imposes the planning of the related activities carried out in the Antarctic²² and the obligation that fulfills, except the prior assessment of the related environmental impact²³. According to REPAT the exploitation of living natural resources and minerals is permitted only for precise and specific objectives²⁴. The only exception is regular fishing

21See principle 15 of Rio Declaration on Environment and Development, which is affirmed that: “(...) protect the environment, the precautionary approach shall be widely applied by states according to their capabilities (...) threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”. Rio Declaration on Environment and Development, UN Doc. A/CONF.151/26, 14 August 1992.

22See Art. 3, par. 2 of PEPAT.

23See Art. 8 of PEPAT and Annex I.

24See Art. 3 of the Annex II of PEPAT. See also Art. 7 of the PEPAT.

activity for CCAMLR.

Art. II includes and defines the conservation of living marine resources as a rational use of resources regardless of the objective, which is that of exploitation.

The need for progressive climate changes that have caused damage to the continent and Antarctic waters²⁵ cause harmful effects in the Antarctic area. This is a harbinger of warming of the seas, melting of ice, destruction of the marine environment, decrease of living species, etc.²⁶. The Antarctic Treaty has long avoided the adoption of a precise climate regime for the Antarctic through the argument of human activities, that cause climate change also carried out outside the area. The rules of the ATS are effective within the geographical scope of the application of the

25ASOC, Antarctic Warming: Early Signs of a Climate Change XIX ATCM/IP056 1995. ASOC, Climate Changes and Antarctica XXII ATCM/IP109 1998; ASOC, The Antarctic and Climate Change XXVIII ATCM/IP104 2005; SCAR, Climate Change: An Antarctic Perspective, ATCM XXIX/IP076 2006.

26ASOC XIX ATCM/IP056 1995, op. cit.

Antarctic Treaty. Thus, the ATCM²⁷, the relevant annual conference of the states parties to the Antarctic Treaty, is considered as a normative power within the ATS, that deliberates by consensus. This means that a negative vote by a single state can prevent the relative adoption of a normative act (Bracegirdle, Connolley, Turner, 2008)²⁸. And so the Parties to the Antarctic Treaty express their concern about the damage, climate change to ecosystems in the Antarctic (Constable, Doust, 2009)²⁹. The Scientific Committee on Antarctic Research (SCAR)³⁰ as well as

27Antarctic Treaty Consultative Meeting (ATCM).

28See in particular the Conference on Climate Change and Governance, Wellington, March 2006, XXIX ATCM/IP047, United Kingdom, Antarctica and climate change-implications for governance XXX ATCM/IP138 and Climate Changes XXX ATCM/WP028.

29ATME, Co-Chairs' Report from Antarctic Treaty Meeting of Experts on Implications of Climate Change for Antarctic Management and Governance, ATME 9/FR 1 and Final Report of the XXXIII ATCM, para 18.

30SCAR, Antarctic Climate Change and the Environment Report, IP46/XXXIIIATCM (ACCE Report). SCAR, Antarctic Climate Change and the Environment. A decadal synopsis and recommendations for action

the Parties to the Treaty have followed with precise and specific way the fight against climate change within the ATCM. The Committee for Environmental Protection (CEP)³¹, as a consultative body of the Parties to the Antarctic Treaty and for environmental issues during the last years, has adopted the Work Programme in response to climate change (CCRWP)³².

It is a program that has sought to promote measures to reduce, prevent, control the harmful effects of environmental activities through the restoration of conditions that are previous and limit the damage that causes and has to do with climate change, that is,

IP72/XLIV ATCM:

<https://scar.org/~documents/policy/antarctic-treaty/atcm-xliv-and-cep-xxiv-2022-berlin-germany-2/atcm44-ip072?layout=default>

31The CEP is established through the PEPAT and is composed of representatives for the states parties to the protocol. It exercises consultative functions so that the opinion of the CEP in a decisive manner seeks to approve the relevant environmental impact assessments that are submitted by the states.

32XXXVIII ATCM, Resolution 4 (2015), CEP Climate Change Response Work Programme.

measures that reduce the reduction of greenhouse gas emissions and the use of renewable energy (Vijaya Venkata Raman, Iniyan, Goic, 2012). These are also measures that set rules and contribute to creating a context that cancels and limits environmental damage. These measures are classified as infrastructure and nature-based behaviors (Baills, Garcin, Bulteau, 2020).

The subsidy group on climate change response has as its principal priority the climate change implications for the environment (SGCCR)³³. Climate change thus seeks to alter the Antarctic continent. Especially, the ocean and the living marine resources, have as a consequence the acidification and increase of the temperature of the waters (Hancock and others, 2020; Nissen and others, 2024).

Taking action to address the harms of climate change to the Antarctic marine ecosystem is a requirement for action by the Parties of the relevant Treaty.

The CCAMLR Scientific Committee is the advisory body to the

³³Subsidiary Group on Climate Change Response (SGCCR). See also: ATCM XL, Decision 1(2017).

Treaty and the CEP identifies common areas of interest and research for climate change on marine ecosystems³⁴. They are noted the recommendations that are part of the Antarctic Treaty Experts Meeting on Climate Change and Management, Governance for the Antarctic³⁵ within the scope of climate change and Antarctic ecosystems with particular attention to greenhouse gas emissions and the rise in temperature for the oceans. Thus, the emissions of gas and the CO₂ in the Antarctic bases and the air and maritime transport activities in the area³⁶ are based on the increase of energy efficiency in these bases

34See in particular: Report of the Joint CEP/SC-CAMLR Workshop, WP55/XXXII ATCM. Report of the Joint CEP / SC-CAMLR Workshop on Climate Change and Monitoring, Punta Arenas, Chile, 19-20 May 2016, WP56/XXXIX ATCM.

35See note n. 3 of the Report of the CEP XIII, in Final Report to the XXXIII ATCM (2010), 211.

36ASOC, Environmental and Economic Benefits of Climate Change Mitigation and Adaptation in Antarctica, IP09/ATME Climate Change, 2010.

through the improvement and use of renewable energy³⁷. The techniques for snow roofs, the bases that facilitate the reduction of energy consumption, the use of energy limits, the performance of scientific research activities and the reduce of movements and of human presence in the Antarctic, were based on the sustainable scientific construction according to the proposal of Recommendation no. 4 of the ATME on climate change and the Annex n. 3 of the CEP XIII Report (De Witt, Chung, Lee, 2024). The scope of the ATS is to facilitate rules that imposing the obligation on the state as well as the scientific basis that adapts the structure and efficiency standards of less impact on climate change. States part of the Antarctic Treaty do not limit their jurisdiction in Antarctica. The harmful impact that comes from transport activities and the ATME of climate change require essential measures to reduce the ships in the Antarctic area. This is a tool that effectively reduces black carbon and climate

³⁷See in argument: Sustainable Antarctic station design: Reducing contributions to climate change, WP27/XLIII ATCM.

pollution even of short duration³⁸. The relative decrease and the lowering of the temperature of the oceans³⁹ has to do with activities of a logistical nature and scientific research that decreases the presence of ships. Thus, compliance with private vessels of a direct nature in Antarctica by flag states is limited. The only authorities that exercise their jurisdiction over vessels are those that find territorial waters of a state.

Within the ATS, was established the obligation for the parties to the Antarctic Treaty to reduce the relative vessels to the Antarctic waters, the environment, and the Antarctic climate without other benefits. Such control has as its basis and with respect to the numerous vessels, the use of private subjects to carry out the relative activities in Antarctic that have an invasive nature.

It was the SGCCR that seeks to create protection areas for marine refuges and species that survive and threaten the rise in sea

38WHO, Health effects of black carbon, 2012:

<https://www.who.int/europe/publications/i/item/9789289002653>

39ASOC of 2013, ASOC, Black Carbon and other Short-lived Climate Pollutants: Impacts on Antarctica, IP65/XXXVI ATCM.

temperatures. The decrease and exclusion of human presence in fragile areas is necessary to ensure the conservation of this type of species.

The continued alteration of Antarctic biodiversity after the introduction of species and within the Antarctic area through ship waste water⁴⁰ identifies species that are part of the Antarctic⁴¹. It was the SGCCP that allowed for the parties to the Antarctic Treaty to justify requests for the designation of a protected area in the Antarctic, as evidence for a harmful impact that climate change creates in this area (Hughes, Convey, Turner, 2021)⁴².

There have been ongoing consultation proposals from the ATME for climate change and the parties to the Antarctic Treaty, that have taken into account the activities intended for the assessment

40SCAR, Antarctic Climate Change and the Environment-2017 Update, IP80/XL ATCM, p. 5.

41Report of the Subsidiary Group on Climate Change Response (SGCCR) 2018-2019, WP36/XL ATCM.

42Report of the CEP Subsidiary Group on Climate Change Response (SGCCR) 2022-2023, WP48/XLV ATCM.

of environmental impact, that is carried out in a preventive manner according to the Annex I of the REPAT⁴³. The parties to the Antarctic Treaty also evaluate the use of new technologies to reduce the effects of climate change on the Antarctic ecosystem as well as the tools that aim to reduce the CO₂ for the oceans.

The new technologies produce tools for the Antarctic waters that fight marine fertilization. This technique consists in the introduction into the sea of substances such as metals that increase the production of organisms capable of absorbing the CO₂ (Strong, Cullen, Chisholm, 2009)⁴⁴.

The positive effects of this technique obviously have as their objective the reduction of the negative impact of climate change on the oceans, also involving marine waters and foreign

43Recommendation 7 (2010) of ATME in climatic changes and Resolution 1 (2016) Revised Guidelines for Environmental Impact Assessments, adopted from XXXIX ATCM.

44Resolution LP.4(8) on the Amendment to the London Protocol to Regulate the Placement of Matter for Ocean Fertilization and Other Marine Geoengineering Activities, 18 October 2013, Annex 4.

substances that alter the natural ecosystem. The states party to the Treaty manifest their relative perplexities through research programs that carry out an experiment for the fertilization (with iron) of the seas that are close to the Antarctic area (Walton, Young, 2011). In such a case, the rules of the ATS do not find space for application since the experimental area is outside the geographical scope for which the treaty is effective. It is evident, however, that the use of marine fertilization for the Antarctic waters decreases the presence of the CO₂ after the impact assessment and after having reached a scientific certainty of the non-harmful character of this technique.

The climate measures and policies of the Antarctic environment require financial support. This promotes scientific research and identifies measures that reduce adequate adaptation to changes⁴⁵.

The states party of the Antarctic Treaty sustain that climate

⁴⁵Resolution 8 (2021), Antarctica in a Changing Climates. Antarctica in a Changing Climate-Implementing ATCM Resolution 8 (2021), WP29/XLIV ATCM and China, The Implementation of the Climate Change Response Working Programme, WP48/XLIV ATCM.

research in Antarctica is in fact a priority, which respects the human activities carried out in Antarctica⁴⁶.

The implementation of climate change policies for Antarctica effectively requires a coordinated action for international legal regimes that have as their final objective the adoption of the relevant policies⁴⁷.

These are forms of cooperation that consist in the adoption of common rules to combat climate change that thus impose obligations of conduct for the states parties and for the treaty instruments that are different.

Already from 2012 the World Meteorological Organization called for further research for the annual meetings of the Parties to the Antarctic Treaty. As a consequence of this, the parties to the treaty have undertaken and circulated the SCAR report on

46Article 3(3) of PEPAT affirms that: “(...) planned and conducted in the Antarctic Treaty area so as to accord priority to scientific research (...)”.

47Marine Environment Protection Committee, International Code for Ships Operating in Polar Waters, Resolution MEPC.264(68), 15 May 2015, MEPC 68/21/Add.1, Annex 10, 3.

climate change of 2022 and other international fora, such as the UNFCCC, the Intergovernmental Panel on Climate Change (IPCC) and the International Maritime Organization⁴⁸.

It is evident that decision-making processes, due to different international regimes, are based on other scientific data that have coherent nature (Likens, 2010; Konyshev, 2023). A coordination between obligations of different legal regimes of international nature is noted as a guarantee of the states parties to the Antarctic Treaty and through a uniform application, which at the domestic level puts the different international obligations to have binding nature⁴⁹.

Each party to the Treaty facilitates the relative dissemination of scientific knowledge that is related to the effects of climate

48IMO, Decision 4 (2022) Letters on Antarctic Climate Change and the Environment: A Decadal Synopsis and Recommendations for Action report, Decision 5 (2010) providing the UNFCCC, IPCC, WMO and IMO with the SCAR ACCE Report.

49See also the Resolution 4 (2022) Antarctic Climate Change and the Environment: A Decadal Synopsis and Recommendations for Action report.

change for the Antarctic. This also happens by international forums that are different from the ATS and by relations of bilateral nature with states that are not parties to the Antarctic Treaty. The actual implementation of climate policies allows the participation of other states. Thus, a coherence for the climate policies of international regimes is ensured. States express opinions about climate change and also find solutions to similar problems. Some states of the Antarctic Treaty Party, which are sensitive to the impacts of climate change and the environment, participate, also, in decision-making processes of other regimes, such as the UNFCCC.

Climate policies are directed to solve problems that are similar for the common objectives for the Antarctic and for other areas of the planet. From a political and legal point of view the Antarctic area leads to actions and regulatory measures that reduce the harmful effects caused by climate change.

Conclusions

From the previous paragraphs we have understood that we need measures and mechanisms to implement a climate policy for the Antarctic. Measures and recommendations put states in suitable practices to reduce the main causes of climate change such as CO₂ emissions, and/or the excessive presence in the Antarctic of humans due to tourist activities.

The adoption within the scope of the ATS of provisions that have a binding nature oblige states to implement mechanisms preventing the harmful effects of climate change and also attributing to states the relative powers to monitor, control, regulate the activities carried out in the Antarctic by private operators that do not damage the polar ecosystem. And it is the Antarctic that is administered by a precise, rigorous special regime.

The traditional jurisdiction criterion is based on the territorial sovereignty of states. The ATS refers to criteria that give

importance to the citizenship and the port status also allowing for the states party to the Antarctic Treaty to control activities that have the Antarctic as their destination. The jurisdiction criteria aim to implement the relevant provisions from the ATS in Antarctic.

Other operators are also used and imposed international obligations and instruments on the matter, such as the UNFCCC, the Kyoto Protocol and the Paris Agreement. Obligations that seem effective to reduce the harmful impact for climate change in Antarctic as well as the obligation to reduce greenhouse gas emissions and CO₂, which imposes non-binding acts. Thus, the international obligations are based on the achievement of minimum standards and objectives for energy efficiency and renewable energy.

The states parties of the Antarctic Treaty accept the provisions of international instruments for combating climate change, which are also applied to the Antarctic. The states also participate in international forums according to their interests in different areas

of the planet. Promoting forms of coordination in different international regimes thus allows the adoption of norms that correspond to scientific data, which aim at concrete objectives. The Antarctic area is thus subjected to a regime of protection of its ecosystem. The ATS plays an important role at global level for legal issues that cause the worsening of climatic conditions in the Antarctic area. We need revisions, amendments of the old norms⁵⁰ and especially of Art. 7 PEPAT, which establishes the

⁵⁰See in particular art. 25(2) of PEPAT, which is affirmed that: “(...) after the expiration of 50 years from the date of entry into force of this Protocol, any of the Antarctic Treaty Consultative Parties so requests by a communication addressed to the depositary, a conference shall be held as soon as practicable to review the operation of this Protocol (...)”. In particular, the international community of collective inspiration and interest, which does not measure the intrinsic value for Antarctica, puts humanity to reserve, with a natural way, peace and science. Thus, the climatic conditions are part of an ecosystem in Antarctica, that assumes its interest with a precise way for the planet demonstrating thus the devastating consequences for the melting of the ice for Antarctica, as well as the rise of the level for the seas to the detriment of microstates and the islands, atolls that have been

relative ban for the exploitation of mineral resources. The lack of hydrocarbons makes the states to allow the relative extraction from Antarctic⁵¹.

Overall, hydrocarbons have increased increase the sea level and cause damage to the microstates, islands and atolls of the relative states that are submerged by the oceans. This is yet another challenge that we will face in the coming years in the level of international protection of the environment in the Antarctic.

submerged for the oceans.

51ASOC, Banning Hydrocarbon Extraction in Antarctica Now: Reducing the Risks and Impacts of Global Climate Change, IP89/XLIV ATCM. The continued commitment to the conservation of Antarctica and of the ATS in particular for the year 2023 for the States Parties to the ATS that have adopted the Helsinki Declaration on Climate Change and which thus reaffirms the ban on the extraction of fossil fuels under Art. 7 of the REPAT. In this spirit see also: Resolution 2 (2023), Helsinki Declaration on Climate Change and the Antarctic, par. 11.

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